

Witness Testimony

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Public Hearing to Consider Taking an Emergency Drought-Related Water Rights Action on a Petition for Temporary Urgency Change in the Sacramento-San Joaquin Delta

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Before the State Water Resources Control Board

The purpose of my testimony is to describe the over appropriation of water in the Delta, identify some of the numerous problems facing the estuary, discuss how approval of the Petition for Temporary Urgency Change may exacerbate existing conditions and suggest available alternatives.

The State Water Board has seriously over appropriated water in the Central Valley.

- According to a 26 September 2008 letter from the State Water Board to the Delta Vision task force, the mean annual unimpaired or full natural flow (without dams or diversions) in the Delta watershed between 1921 and 2003 was 29 MAF (max of 73 MAF in 83).
- The State Water Board has granted some 245 MAF of water rights in the Delta – or almost 8.5 times the annual mean unimpaired flow in the entire watershed.
- The Central Valley and State Water Projects hold 53% of these Delta water rights totaling about 130 MAF or about 4.5 times the annual mean flow.
- However, these Project water rights are junior to most of the other water rights – meaning they're available only after more senior rights are satisfied.
- But, this is only the tip of the iceberg because the State Water Board doesn't control pre-1914 and riparian water rights.
- Water rights that existed prior 1914 are senior and superior to post-14 appropriative rights.
- Owners of property alongside waterways have riparian water rights that are senior and superior to all appropriative rights.
- The State Water Board doesn't know the full amount of these pre-14 and riparian rights.

- Riparian and appropriative water rights do not include water that is necessary to support the Public Trust: i.e., the fisheries and ecosystem integrity of the Delta and its tributary rivers and streams.

There has been a significant increase in SWP and CVP exports in recent decades.

- For example, average annual SWP and CVP exports in the 1970s were 1.430 MAF and 2.141 MAF, respectively. Average exports in the 1980s were 2.425 MAF (SWP) and 2.519 MAF (CVP). During the 1990s, exports were 2.305 MAF (SWP) and 2.219 MAF (CVP). Exports dramatically increased between 2000 and 2007 to an annual average of 3.251 SWP and 2.590 MAF (CVP). Additionally, average annual exports to Contra Costa WD and the North Bay Aqueduct significantly increased from 90 TAF and 0 TAF, respectively, in the 1970s to 120 TAF and 48 TAF in the 2000s.

In Resolution No. 2007-0079, the State Board Found:

"In December 2006 the State Water Board adopted a Water Quality Control Plan for the Bay-Delta (Bay-Delta Plan) to protect beneficial uses. This Bay-Delta Plan identified four emerging issues that all require additional action by the State Water Board: Delta and Central Valley salinity, San Joaquin River flows, the pelagic organism decline (POD), and climate change."

"The State Water Board adopted the southern Delta salinity objectives for agriculture in the 1978 Bay-Delta Plan. The objectives are based on conditions, crops, and irrigation practices in the southern Delta at the time the objectives were adopted. These objectives were unchanged, but fully implemented in the 1995 Bay-Delta Plan. The objectives were unchanged in the 2006 Bay-Delta Plan. "

"San Joaquin River Basin salmonids have declined since adoption of the San Joaquin River flow objectives in the 1995 Bay-Delta Plan and the implementation of those objectives in D-1641. At the same time, pelagic organisms in the Delta have shown significant declines."

"Delta smelt and several other pelagic fish and aquatic organisms in the Bay-Delta have experienced dramatic and unexpected population declines in recent years. The Interagency Ecological Program (IEP)³ determined that at least three general factors may be acting individually or in concert to lower pelagic productivity: toxic contaminants; exotic species; and water project operations."

"The delta smelt biological opinion for operations of the SWP and CVP

has been found to be inadequate by a United States District Court for the Eastern District of California. The court has ordered the USFWS to develop a new biological opinion, which is expected to be completed in November of 2008. In the interim, the court has imposed limitations on diversions by DWR and USBR from the Delta and other measures."

Delta Pelagic fish species are experiencing a catastrophic decline.

- The Delta's pelagic fisheries are experiencing catastrophic collapse. The California Department of Fish and Game's Delta Summer Trawl Survey and Fall Midwater Trawl Survey show indices (measures of relative abundance) for delta smelt, longfin smelt, Sacramento splittail, threadfin shad and young-of-the-year striped bass to be at historic or near historic lows. Indeed, 2008 indices for delta smelt, splittail, American shad and threadfin shad are at all time low. Native phytoplankton production in the estuary has decreased about one order of magnitude while zooplankton production is down one to two orders of magnitude.
- The special team of federal and state scientists investigating the pelagic organism decline in the Delta has identified entrainment at the state and federal project pumps and toxic pollutants as two of the three major suspected causes of the collapse of these pelagic fisheries. The third suspected cause is identified as food web changes, partially caused by invasive species. Relative abundance of a number of these introduced species is likely related to changes in the balance of fresh and saline waters.
- The December 2008 United States Fish and Wildlife Biological Opinion for Delta smelts observed on page 192 that: "In the 1994 designation of critical habitat, the best available science held that the delta smelt population was responding to variation in spring X2. In the intervening 14 years, the scientific understanding of delta smelt habitat has improved. The current understanding is that X2 and OMR both must be considered to manage entrainment and that X2 indexes important habitat characteristics throughout the year."

Delta waterways are polluted.

- The Delta has been identified as impaired and incapable of supporting identified beneficial uses pursuant to the federal Clean Water Act. Delta waterways have been included, pursuant to the federal Clean Water Act, on the California 2002 and 2006 CWA Section 303(d) List of Water Quality Limited Segments as incapable of supporting identified beneficial uses because of diazinon, chlorpyrifos, Group A pesticides, DDT, mercury, electrical conductivity, unknown toxicity and dissolved oxygen deficiencies. None of these identified impairments have been successfully eliminated.
- The Delta has been identified as a Toxic Hot Spot for mercury, pesticides and low dissolved oxygen pursuant to California's Bay Protection and Toxic Cleanup Program. In

1989, the California Legislature established the Bay Protection and Toxic Cleanup Program to identify and cleanup toxic hot spots. The State Board identified the Delta as a toxic hot spot for mercury, low dissolved oxygen in the Stockton Ship Channel and pesticides from agricultural return flows and dormant spray runoff and urban runoff in the Stockton and Sacramento area in 1999.

- Selenium concentrations measured in ducks, fish and invertebrates in the Delta can cause health risks to people and wildlife.
- Mercury concentrations in the Delta fish tissues exceed human health criteria.
- Pathogen counts in a number of Delta waterways exceed applicable numerical criteria.
- The California Office of Environmental Health Hazard Assessment has issued a sport fish consumption advisory regarding polychlorinated biphenyls (PCBs) in fish from the western Delta.
- Continued population increases in the Central Valley have led to significant increases in the mass loading of pollutants into the Delta. California's population has almost doubled since the subject permits were adopted: increasing from 19,953,134 in 1970 to almost 38 million today. The Central Valley is one of the fastest growing areas of the state. Renewals of municipal wastewater NPDES permits routinely allow significant increases in pollutant mass loading; often exceeding the identified assimilative capacity of receiving waters.
- The Delta has experienced significant increase in the ambient concentration of an array of pollutants; some exceeding water quality objectives, some below the threshold. However, the potential harmful consequences of synergistic and additive interactions, bioaccumulative toxins, sublethal or chronic impacts and the cumulative effects of multiple stressors remain largely unidentified and unaddressed. Further, water quality standards have never been promulgated for a large number of known and potentially harmful constituents.

Reductions of flow will likely impact water quality and beneficial uses.

- It must be remembered that water quality and water quantity are irrevocably connected and can be characterized as flip sides of the same coin. Alterations of instream flow, through upstream diversion or changes in the natural hydrograph, inevitably alter the assimilative capacity of downstream waters. Reductions in assimilative capacity will inevitably impact habitat and water quality. In other words, reductions in the flow of relatively good quality Sacramento River water or reductions in the flow of relatively good quality water in San Joaquin River tributaries (i.e., Stanislaus, Tuolumne and Merced Rivers) increases the concentration and fate and transport of pollutants in downstream waters. While the potential impacts may be difficult to quantify, they are

inescapable; toxic pollutants will become more toxic and impacts to an already degraded estuary will increase.

- The U.S. Bureau of Reclamation (USBR) and California Department of Water Resources (DWR) are charged with responsibility for meeting Delta salinity standards. DWR and USBR are not currently in compliance with Delta salinity standards or the Delta outflow objective for February 2009. Further reductions in flow will likely exacerbate conditions.

Storage in San Luis Reservoir is available to augment San Joaquin River flows.

- According to DWR's Summary of SWP Reservoirs For the Week 02/09/09 Through 02/15/09, San Luis Reservoir storage was 728,781 acre-feet, as of 02/15/09. This is approximately 69% of storage at Oroville Reservoir (1,059,530 acre-feet) for the same date. Water from San Luis can be transferred to the San Joaquin River via the Delta Mendota Canal to meet San Joaquin fish and water quality flow, water quality in the Delta and X2 requirements.

Reductions in state and federal project exports will benefit both Delta pelagic and salmonid species.

- Export reductions will reduce entrainment of listed and candidate endangered salmonid and pelagic species and enable existing limited reservoir storage to be used to meet Delta outflow objectives and provide cold water for salmonid species.